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ABORIGINAL FUNEREAL CUSTOMS IN THE UNITED STATES.

BY EDWIN A. BARBER.

RESPECT for the dead, evinced by ceremonies, rites, or solemn decorations, has been universal in all ages and all countries. Much information can be gleaned, as to the practices of prehistoric man, from the construction of graves¹ and the relics obtained therefrom. The paleolithic and neolithic stone tools, and the later copper and bronze instruments, remain intact for centuries; but iron rusts and rapidly crumbles away, while wood decays, and all other remains of the iron age vanish in a few years, often before the particles of the human frame-work have become disintegrated. More, therefore, can be learned relative to the modes of sepulture of the ancients than the methods of burial of much more recent tribes, and we are frequently compelled to draw conclusions in regard to the customs employed by the Indians of a century or so ago from the usages of their ancestry, since it is a well-established fact that these are handed down from generation to generation, with but few, if any, improvements or modifications. Comparatively little is known of the funereal rites of our modern savages, when we consider the great number of tribes; a fact explained by their distant removal from the centre of civilization, the secrecy of their ceremonies, and the superstition of the savage mind in regard to death. Strangers are seldom permitted to witness the disposition of Indian bodies, and nearly all such information has been obtained from subsequent grave-desecration. So far as our present knowledge extends, as regards aboriginal burial in the United States, there were four methods, namely:—

- I. By inhumation (subterrene).
- II. By cremation (subterrene).
- III. By embalmment (subterrene).
- IV. By aerial sepulture (superterrene).

The first was the one usually employed.

Bodies were interred either in ordinary graves, in mounds, or in caves. The ancient Pueblos of the Pacific slope generally practiced grave-burial. The corpse was placed three or four feet beneath the surface of the earth, and at its head were arranged food vases, ornaments, and implements of the chase. The

¹ The word *graves* in this paper is used in its broadest acceptance, including *all* places of deposit for dead bodies.

surface of the grave was level with the surrounding ground, and its dimensions were defined by stones set on edge in the soil, forming a parallelogram five or six feet in length and from two to four in breadth. The ragged edges of the slabs projected above the surface from six inches to eighteen, and occasionally a head-stone reached to the height of two feet. On none of the latter, however, has an inscription of any kind ever been observed differing in this respect from the wooden *adjedatigs* of the Dakotas.

Many interesting graves have been discovered and examined throughout the Cañon of the Rio-Mancos, in Southwestern Colorado. Captain John Moss, of that State, unearthed from one of these a perfect skull and some fragments of other bones of a human skeleton. From another he took several entire and curiously shaped vessels of pottery,¹ now in possession of Hayden's United States Geological Survey of the Territories, at Washington. It would appear from this that the deceased were supplied with vessels of food and drink to assist them on their journey to the mysterious hereafter. In addition to this custom, great quantities of pottery were strewn or broken over the surfaces of graves, in honor of the departed. Occasionally large vases or other vessels are found in a state of tolerable preservation, or, indeed, entire; these had been placed there by the friends of the deceased; but whether they were originally full of food, it is difficult to determine. In the neighborhood of Aztec Springs are long series of graves extending for miles along the valley west of the great Mesa Verde. In a particular spot, an arroyo has cut through one of these graves, showing a vertical section of it. About four feet from the level of the valley a quantity of broken pottery and charred wood may yet be seen, — the former probably at one time constituting perfect food vessels, — arranged at the head of the corpse; but the skeleton had disappeared after the exposure of many years.

Near the beginning of the Cañon of the Hovenweep, a skeleton was seen partially protruding from the eastern bank of this arroyo. It was lying about three feet below the surface, the face pointing eastward, the back of the skull only being visible. On removing it from the bank the skull fell to pieces, and but two or three of the long bones could be found, the rest of the skeleton having crumbled to dust. Sage-brush (*Artemisia*), was growing over the grave, indicating a growth of at least a hundred

¹ See Figure 12, Pl. ix., *American Naturalist* for August, 1876.

years, and the skeleton must have been placed there long before the vegetation commenced.

Several ancient skeletons were exhumed in the Cañon of the Montezuma in Southeastern Utah, where great numbers of graves were found. In one tomb was a portion of a skeleton, including the long bones and some of the phalanges. The skull had entirely disappeared. From another grave we took a well-preserved skull and other portions of the skeleton, all of which have been removed to Washington. This latter skull, however, is probably that of a modern Navajo. Along the valley of the Rio San Juan lies one of the most extensive aboriginal cemeteries. The graves continue uninterruptedly for several miles, and thousands of subjects were evidently here buried. The only traces of buildings are some low, circular mounds, about fifty feet in diameter, indicating the former existence of adobe structures, over which occur great quantities of broken pottery and a number of arrow-points.

Several tribes were accustomed to incase their dead in stone boxes or tombs. Among these were the Lenni Lenape, or Delawares, of Pennsylvania, although the graves already opened show an antiquity of probably not more than one hundred and fifty or two hundred years, because the native contents, consisting of fragments of rude pottery and ornaments, are associated usually with articles of European manufacture, such as glass beads, iron or copper implements, and portions of fire-arms. A number of graves have been examined in the vicinity of the Delaware Water Gap. The tumuli were scarcely distinguishable, but were surrounded by traces of shallow trenches. The skeletons lay at a depth of about three feet, and were in almost every instance inclosed in rude stone coffins. In one case the body had been placed in a slight excavation, facing the east, and above it a low mound had been built.

The second variety of inhumation was *tumulus burial*. This prevailed to a great extent among the mound builders of the Mississippi Valley. In some instances a mound contained but one body, while in others it constituted a general burial ground. The dead were generally near the original level of the surface and the mounds heaped over them. No particular posture of the body was assumed; sometimes it reclined; occasionally it was sitting, but most frequently it was extended on the back. The face was often pointed eastward, though no general rule was observed in respect to orientation.

A third method of inhumation was cave burial, such as was employed by the troglodytes of the Vézère, in Southern France. This was not common in the United States, though isolated instances are recorded, such as the remains found in the deposits of a cave in Breckenridge County, Kentucky, and also in caverns through the cañons of Utah, Arizona, and New Mexico.

Cremation was of two kinds: in graves and in urns. The former was practiced, to some extent, by the ancient Pueblos of Arizona and Utah. The body was burned and the ashes deposited in shallow tombs, marked in the ordinary way by slabs of stone set on edge around the spot. Several tribes of the Rio Gila¹ in Southern Arizona and some in Texas were in the habit of burying the bones of their departed in urns. Sometimes the skull was placed face downwards in the mouth of the vase, and served as a sort of cover or lid. In the immense cave town on the Rio de Chelly (examined by a portion of Hayden's United States Geological Survey), seven burial urns were unearthed, which had been placed in a group, their edges touching. They had been hidden just below the surface soil, on a mound of earth at the foot of the walls of the pueblo. Removing them carefully from their positions, it was found that they were about fifteen inches in height, six or seven across the mouth, made of coarse, sandy clay, and burned to a sooty blackness. The vessels were filled to the mouth with some substance, which, on examination, proved to be a white adobe cement, below which appeared fragments of charcoal, burned corn cobs, and small pieces of highly glazed pottery. No indications of charred bones were found in them, however, and it could not be determined satisfactorily whether they had originally contained sacrificial offerings merely, or whether they held human remains. At the foot of the village an extensive grave-yard was discovered, marked off into square and circular tombs by the usual upright stones. A few hundred yards beyond this, up the stream, was another extensive place of interment; so that while the latter was the usual mode of burial, it would seem as though cremation had been resorted to by the people, while the enemy was attacking the town; for it is evident that there had been a great and bloody fight here, which can be proved by the quantity of arrow points and numerous other indications.

¹ The Spaniards, as late as the sixteenth century, found some tribes in this portion of the West, which cremated their dead. Captain Fernando Alarcon, in an account of his expedition in 1540, mentions a people near the Colorado River which lived in great houses of stone and burned their corpses.

It is a matter of certainty that cremation was performed without urns; that is, bodies were burned in graves or stone tombs. At the junction of the two dry arroyos, the McElmo and the Hovenweep, a considerable community once existed. On the point of a high mesa, overlooking the water-courses for many miles to the north and south, a large burial ground was discovered, marked off by upright stones, the longest being always at the head of the grave. On opening several of these with pick and shovel, it was found that the solid bed-rock appeared at a depth of six inches to a foot and a half, so that it was impossible to have here buried any natural human bodies. It was found, on further investigation, that in each one was a quantity of black dust and some fine white powder. The majority of these graves were rectangular, but among the rest were two or three large circular *mounds*, about twenty feet each in diameter, where had probably been laid the ashes of persons of note or greater wealth. In Southwestern Colorado, the valley northeast of Ute Mountain was covered with these square inclosures, among which could be traced the foundation mounds of very ancient abodes, which had been constructed, for the most part, of clay. Among these graves we spent an entire morning, but were rewarded by the discovery of nothing except layers of fine white dust and some small fragments of burnt wood. The graves were very old, and it seemed not strange that a thousand or more years had destroyed nearly all traces of their former contents. And so in the immediate neighborhood of every considerable pueblo, we found graves more or less numerous.

From the *Alta California* I extract the following account as given by Mr. J. A. Parker, Superintendent of the Montezuma Canal Company of Southwestern Arizona. In speaking of the ancient ruins and human remains of Pueblo Viejo Valley, he says, "The human bones show unmistakable evidence of having been burned, and crumbled to pieces upon being handled. Several ollas (pronounced *ô-yahs*) — jug-shaped, earthen vessels, now used by the Indians for holding water — were found, which contained ashes, *small pieces of human bones*, and fragments of charcoal, which would indicate that cremation was practiced by that extinct people."

Prof. John L. LeConte describes the ceremony of cremation as performed by the Cocopa Indians of the Rio Gila, and witnessed by him in the year 1850: "A short distance from the collection of thatched huts which composed the village a shallow

trench had been dug in the desert, in which were laid logs of the mesquite (*Prosopis* and *Strombocarpus*), hard and dense wood, which makes, as all western campaigners know, a very hot fire with little flame or smoke. After a short time the body was brought from the village, surrounded by the family and other inhabitants, and laid on the logs in the trench. The relatives, as is usual with Indians, had their faces disfigured with black paint, and the females, as is the custom with other savages, made very loud exclamations of grief mingled with what might be supposed to be funeral songs. Some smaller fagots were then placed on top, a few of the personal effects of the dead man added, and fire applied. After a time a dense mass of dark-colored smoke arose, and the burning of the body, which was much emaciated, proceeded rapidly. I began to be rather tired of the spectacle and was about to go away, when one of the Indians, in a few words of Spanish, told me to remain, that there was yet something to be seen.

“An old man then advanced from the assemblage with a long, pointed stick in his hand. Going near to the burning body he removed the eyes, holding them successively on the point of the stick, in the direction of the sun, with his face turned towards that luminary, repeating at the same time some words which I understood from our guide was a prayer for the happiness of the soul of the deceased. After this more fagots were heaped on the fire, which was kept up for perhaps three or four hours longer. I did not remain, as there was nothing more of interest, but I learned on inquiry that after the fire was burnt out it was the custom to collect the fragments of bone which remained, and put them in a terra-cotta vase, which was kept under the care of the family.”¹

But few cases of embalming are known to have occurred in the limits of the United States. As examples of this mode of preparing the corpse may be mentioned the Mammoth Cave and Salt Cave mummies of Kentucky. These bodies had been preserved by a rude species of embalment and by exsiccation.

Aerial sepulture included all burial which was performed above the surface, and consisted of two kinds: the first by suspension on scaffolds or in trees, the second by sepulture in canoes. Several tribes still employ the former mode of burial. The Sioux elevate the bodies of their friends into trees, or stretch them

¹ Proceedings of the American Association for the Advancement of Science, 1874, page 41.

out on raised platforms, wrapping them in blankets and leaving them to the mercies of the elements and carnivorous birds.

Lieut. J. W. Abert tells us, in his Notes of a Military Reconnoissance in 1846, that he saw in the Arkansas bottom "several Indian bodies wrapped in blankets and skins, exposed on platforms of lodge poles, high up in cotton-wood trees, where they are safe from wolves and the sacrilegious touch of men. The air of the prairie produces rapid desiccation, and in this respect resembles Egypt and the islands of the ancient Guanches." Canoe burial is resorted to by several tribes of the Northwest. Mr. John K. Townsend, in his narrative of a journey across the Rocky Mountains, describes several such burial grounds. One, at Mount Coffin, consisted of a great number of canoes containing bodies of Indians, each being carefully wrapped in blankets, and supplied with many of his personal effects in the form of weapons and implements. Near the Columbia River was found another cemetery of this sort. The bodies were lying in canoes which had been elevated five or six feet into trees or placed on stakes. In some instances the corpses "were nailed in boxes or covered by a small canoe, which was turned bottom upwards and placed in a larger one, and the whole covered by strips of bark carefully arranged over them.

"The corpses of the several different tribes which are buried here are known by the difference in the structure of their canoes, and the *sarcophagi* of the chiefs from those of the common people by the greater care which has been manifested in the arrangement of the tomb."

Mr. Townsend also mentions another method which some of these tribes occasionally employed: "We observed to-day several high, conical stacks of drift-wood near the river. These are the graves of the Indians. Some of the cemeteries are of considerable extent, and probably contain a great number of bodies." These tombs should in all likelihood be classed with tumuli or burial mounds.

Washington Irving describes some of the same burial grounds in his *Astoria*, but his descriptions do not differ materially from those of Mr. Townsend.

In the Sandwich Islands, Mr. Townsend informs us, the natives practiced another mode of burial which was partially *aquatic*. Similar to a sacrificial altar, they construct what is called a *morai*. "It was the place to which the bodies of the dead chiefs were carried previous to interment. After lying here in state for a

longer or shorter time, according to the grade of rank held by the deceased, the flesh was stripped from the bones and buried in the sea ; the bones were then taken and deposited in caves or subterranean vaults, which concluded the ceremony."

Aquatic burial, so far as we yet know, was not resorted to in the United States save in exceptional instances.

In regard to the Indians previously alluded to, who disposed of their dead on Mount Coffin, Mr. Irving remarks : " The same provident care for the deceased that prevails among the hunting tribes of the prairies is observable among the piscatory tribes of the rivers and sea-coast. Among the former the favorite horse of the hunter is buried with him in the same funereal mound, and his bow and arrows are laid by his side that he may be perfectly equipped for the " happy hunting grounds ' of the land of spirits. Among the latter the Indian is wrapped in his mantle of skins, laid in his canoe with his paddle, his fishing-spear, and other implements beside him, and placed aloft on some rock or eminence overlooking the river, or bay, or lake that he has frequented. He is fitted out to launch away upon those placid streams and sunny lakes stocked with all kinds of fish and water-fowl, which are prepared in the next world for those who have acquitted themselves as good sons, good fathers, good husbands, and, above all, good fishermen during their mortal sojourn."

In conclusion I would state that I have simply aimed in this paper to briefly review the different forms of sepulture of the past and present aboriginal inhabitants of the United States. The article is not intended to be exhaustive, as the subject is one which would fill several volumes were it properly treated. The examples I have selected are mostly such as are comparatively new or have not as yet attracted general attention. The graves of the ancient Pueblos of the western slope have never, I believe, been accurately described.

THE SLEDGE MICROTOME.

BY CHARLES SEDGWICK MINOT.

THE preparation of microscopical sections by free-hand cutting, or even with the assistance of the microtomes now in use, is accompanied by great difficulty in producing sections of even thickness. In all cases the chief trouble is caused by the irregular motion of the knife or razor which is held in the hand, and